IDAHO SCIENCE & TECHNOLOGY

Idaho Office of Science & Technology **April 2007**

In this issue:

Boise, Pocatello, Coeur d'Alene Named Tops for Business, Careers

(Statewide) Idaho's largest metropolitan area again received a top ranking in the annual Forbes survey of best places to work and do business.
Boise was ranked third among large metropolitan areas, one notch higher than last year. The city was noted for its strong economy, low unemployment rate, business and living costs and quality of life.
Raleigh, N.C., took the number one ranking while Provo, Utah, was listed as number two.
Pocatello placed 20th in the list of "best small places" for business and careers with high marks for educational attainments and a low cost of doing business. Coeur d'Alene ranked 22nd overall and was the sixth best small city in terms of job growth.
Sioux Falls, S.Dak., ranked number one among small cities while Bismark, N.Dak., took the second spot.
The three Idaho cities making the Forbes list represents three distinct regions of the state.

High-Tech Wages in Idaho Jump in '06

(Statewide) The average high-tech wage in Idaho rose nearly 11 percent

2007 Events Calendar

April 18-19
Third Annual Kickstart
Boise
Annual entrepreneurial event features speakers and how-to workshops. Keynote speakers include Rick & Jeff Sloan, founders of Startup Nation; Ben McConnell, author of Citizen Marketers; and Furby inventor Caleb Chung. Workshops will include two tracks

in 2006, reaching $66,187, or $31.82 an hour, according to Idaho Commerce & Labor.
The number of high-tech employers and employees also rose last year, showing the industry approaching the record highs enjoyed before the tech downturn of 2001-2003.
Idaho showed a 6.2 percent increase in high-tech firms with nearly 56,000 employees in 2006. That growth came on the heels of a 10.6 percent rise in high-tech firms and a 4.2 percent rise in high-tech employees in 2005.
Technology is one of the state's largest industries.

Micron Opens Manufacturing Plant in China

(Boise) Micron Technology Inc. has opened a new manufacturing facility in Xi'an, China.
The facility, Micron's first manufacturing facility in China, is designed for assembly and testing semiconductor products including dynamic random access memory, NAND flash memory and CMOS image sensors.
Company, government and community officials were on hand for the opening of the facility, which should be completed by late 2008 at an investment of $250 million. Total employment will be 2,000. The plant is Micron's second assembly and test facility in Asia. The other is in Singapore. Micron's Xi'an plant will be one of the largest investments of the 860 foreign-invested companies operating in the Xi'an High-Tech Zone in Shaanxi Province in midwestern China.
More information is at micron.com.

Software Simplifies Mergers, Acquisitions

(Boise) FTF Technologies Inc. has launched IP Dealroom, a Web-based software program designed to assist patent lawyers and administrators with mergers and acquisitions.
The program provides a secure, Web-based file storage system for managing all merger and acquisition transaction-related documents. This saves the acquiring company time and money by taking the legwork out of due diligence and document integration.
With the tremendous growth rate of mergers and acquisitions continuing into 2007 in both the U.S. and Europe, patent lawyers and administrators are seeking new ways to ensure the accuracy of their due diligence reviews, obtain greater transparency into the patent portfolio of target companies and collaborate across long distances.
First to File's IP Dealroom uses the familiar Tri-Fold™ view and helps legal counsel with due diligence reviews including quick uploading features, data population and secure access/permission functionalities, full text search capabilities and document commenting, editing and collaboration tools.
When the deal is done, IP Dealroom allows acquiring companies to cleanly and electronically transfer all documents. When deals don't go through, IP Dealroom's Escrow feature makes it easy to "unwind" the transaction.
FTF Technologies Inc. is a privately held company headquartered in Boise.
More information is at firsttofile.com.

Kickstart '07 Tickets on Sale

(Boise) Tickets for the third annual entrepreneurial education program Kickstart are now on sale.

focusing on Starting a Business and Growing a Business. For information and registration, go to kickstartidaho.com.

April 19-21
Idaho Academy of Science Conference
Idaho Falls
Program will focus on "Energy for the Future: Human & Ecological Considerations." For information, go to isu.edu/ias.

April 27
University of Idaho Design Expo
Moscow
Annual event features capstone projects by engineering students. More information is at engr.uidaho.edu/expo.

April 30
Best Practices for Emerging Tech Centers
Boise
Heike Mayer, an assistant professor at Virginia Tech, will talk about her research project for the National Governor's Association on Emerging Tech Centers. She will talk about how Boise fits into her report and what makes it unique among other growing technology communities. The program is scheduled for 1 p.m. in the first floor conference room of the J.R. Williams Building, 700 W. State St. For information about this free

The program on April 18-19 in Boise will feature keynote addresses from Rich Sloan, one of the founders of Startup Nation, and Ben McConnell, author of "Citizen Marketers." The program includes workshops for those considering starting a business or expanding current business opportunities.
This year's theme is "Lessons from the Trenches," focusing on real-life, real-time lessons. Caleb Chung, the Idaho inventor of Furby and Pleo, will also share experiences of his latest startup company.
The cost is $35 each day or $60 for both days. The full schedule of events and locations is at www.kickstartidaho.com.

Spohn to Lead HP's LaserJet Printing Business

(Boise) Hewlett-Packard Co. has named Nor Rae Spohn as senior vice president of its LaserJet Printing Business.
Spohn will be responsible for continuing the company's worldwide leadership in laser printing through customer focus and innovation. A 26-year veteran of Hewlett-Packard, Spohn will report to Vyomesh Joshi, executive vice president of the Imaging and Printing Group.
Previously Spohn was vice president and general manager of the company's Color LaserJet Business and before that led the Personal LaserJet Printing Business. Last October, she was inducted into the Women in Technology International Hall of Fame as one of the world's "five most pioneering women."
Based in Boise, Spohn recently was appointed to the Governor's Science & Technology Advisory Council. She holds a bachelor's degree from Iowa State University in computer science and a master's degree from Stanford in electrical engineering.

Micron Introduces New High-Definition Sensors for Digital Cameras, Camcorders

(Boise) Micron has unveiled two new CMOS sensors for mainstream digital cameras and camcorders. The sensors bring exceptional picture quality and ultra-fast burst modes to point-and-shoot digital cameras, features typically found only in high-end digital, single-lens-reflex cameras.
In addition, the sensors enable true high-definition video capture for point-and-shoot cameras, a feature typically found only in high-end camcorders.
Micron's new 5-megapixel HD image sensor is designed specifically for hybrid cameras that offer HD video and still images. The sensor, which fits into a 1/2.5-inch optical format, is capable of capturing HD video at 60 frames per second in 720p (progressive) format. For burst-mode, the sensor snaps 15 still photos in rapid sequence, enabling consumers to capture the exact moment they intended. The new sensor joins Micron's industry leading 8-megapixel sensor, that is now in mass production, and its standard definition 5-megapixel sensor, that is currently designed into cameras on the market.
Targeted at digital consumer camcorder applications, Micron also introduced a new HD video sensor that captures 60 frames per second in 720p format and delivers low noise performance. The sensor enables camera manufacturers to design compact high-definition camcorders using smaller and lower cost lenses. The sensor also has additional pixel area for image stabilization, which reduces the effect of shaky and blurred images typically caused by jittery hands or camera-shake.
More information is at www.micron.com.

program, contact Dr. Kent Neupert at Boise State University, 426-2397.

For more calendar information, visit Conferences and Events at cl.idaho.gov

PCS Edventures Signs Deal in Middle East

(Boise) PCS Edventures, a learning software company, has signed a license agreement with its sales and distribution partner in the Middle East.
The agreement is for a fixed license fee for $7.15 million for several titles from the PCS BrickLab curriculum series.
The fixed license fee enables PCS Middle East to translate, localize and deliver these titles in up to 5,500 sites in Saudi Arabia as part of a larger initiative to deploy full PCS STEM modules into Saudi Arabia and throughout other Arabic-speaking countries in the Middle East.
PCS Edventures designs and develops Web-based and hands-on learning products that foster mathematics, science and technology education. Product lines range from hands-on learning labs in subjects like engineering, science, math, robotics, information technology and electronics to administrative tools designed to help schools manage the enormous amounts of data required in day-to-day operation.
More information is at edventures.com.

HP Offers Microenterprise Grants

(Nationwide) Hewlett-Packard Co. is offering grants of mobile technology and cash to microenterprise development agencies and programs located in the United States including Puerto Rico through its 2007 HP US Microenterprise Development Program.
Up to 40 grants, each valued at $56,000, will be awarded to nonprofit organizations and higher education institutions that provide startup assistance, business training, access to capital and advice to entrepreneurs and very small businesses in low-income communities.
The deadline for submitting an application is June 5.
Go to hp.com/go/hpmicroenterprise to access the Request for Proposals and learn more about the grant goals, eligibility requirements and application process.
Print the informational flyer for this grant located at: hp.com/hpinfo/grants/us/programs/microenterprise/07us_mdp_flier.pdf.

American Semiconductor Hits Technology Milestone

(Boise) American Semiconductor Inc. has completed a significant technology development milestone for its Flexfet SOI CMOS technology.
The company's process installation at its contract manufacturing site in San Jose has been demonstrated using the Flexfet advanced Independent Double Gated SOI CMOS process technology.
This accomplishment enables the next steps in the full commercialization of Flexfet for the company's current military, aerospace and long-term general commercial markets.
"We now have our onshore fabrication capacity positioned to fully demonstrate Flexfet double gate benefits such as ultra-low-power, extreme environment reliability and low cost from the exciting new dynamic threshold control provided by this process technology" President Doug Hackler said.
American Semiconductor is a pure-play foundry for wafer fabrication and advanced process development. It is active in advanced technology research supported by the U.S. Department of Defense, U.S. Department of Energy and NASA.

Scholarship Funding Sought for Idaho Business Week

(Boise) From July 9-14 at Northwest Nazarene University selected high school students and educators will be immersed in intensive fiscal, entrepreneurial and free-enterprise training to teach them what it takes to succeed in business – and transform them into entrepreneurs.
Program organizers hope to raise $135,000 to help students attend the program. Troy McClain, who was a finalist on the reality show "The Apprentice" in 2003, serves as scholarship chair for this year's program. It's just the opportunity that McClain wishes he'd had when he was younger.
"I have often wished I could have found something sooner to help me avoid some of those pitfalls and jumpstart the inner entrepreneur."
Idaho Business Week is a project organized and supported by The Idaho Foundation for Private Enterprise & Economic Education and the Idaho Association of Commerce & Industry.
Idaho Business Week's goal for 2007 is to provide year-round Web content and access to classroom tools and human resources plus a new, interactive "Millionaire Day" that will focus on educating future business leaders.
For more information, contact Vickie Horn at 345-2166 or (800) 345-2161, e-mail ibw@iaci.org or go to www.idahobusinessweek.org.

Low-emissions Snowmobile Wins Awards for UI Team

(Moscow) The University of Idaho Clean Snowmobile Competition Team recently won the Society of Automotive Engineers Clean Snowmobile Challenge, where participating students from across the country re-engineer stock snowmobiles to reduce emissions and noise while maintaining or enhancing performance.
Idaho's team built a high-performance sled with significantly improved fuel efficiency, lower emissions and less noise. For its innovative tweaking of the traditional two-stroke engine and unique chassis modifications, Idaho brought home the International Snowmobile Manufacturers Association Award for first place, the Gage Products Award for Best Fuel Economy, the Polaris Industries Award for Best Handling, the Society of Automotive Engineers Award for Best Design, the Land and Sea Inc. Award for Best Performance, the EMITEC Award for Best Value and the DENSO Corporation Award for Best Ride. The team shared the Michigan Snowmobile Endurance Award with four other institutions completing the 100-mile Endurance Run.
The Idaho sled, the lightest combustion engine powered snowmobile in the competition at 570 pounds, passed the National Park Service noise emission standard and the cold start on the first pull test, placed second in acceleration at two-tenths of a second behind a competing sled that did not meet the noise standards and earned a bonus for requiring no maintenance during the week of competition.
The university team design incorporates a high-performance custom chassis powered by a modified Ski-Doo 600cc high-output, two-stroke engine. The team adapted an Evinrude E-Tec direct injection system to the engine. A direct injection cylinder head with improved combustion chamber design was fabricated for the engine. Use of direct injection and the improved combustion chamber greatly reduces exhaust emissions and improves fuel economy. Emissions are further reduced through engine tuning and exhaust after-treatment.
Mechanical noise emissions were reduced using vibration absorbing materials on the chassis and hood. The team designed the hood to allow

cooling air to circulate while keeping engine noise at a minimum. Exhaust noise is also addressed with a nonstandard exhaust silencer.
The University of Idaho team hopes to earn a first-ever National Park Certification for a two-stroke engine, a certification based on standards higher than those set by the Environmental Protection Agency.

BSU Sensor Could be Used to Detect Chemical Warfare Agents

(Boise) Boise State University engineering professor Wan Kuang will receive startup funding to develop a microsensor that can be used to identify and measure contaminants from a chemical spill or other industrial sources or agents used in chemical warfare.
The $50,000 grant from the U.S. Environmental Protection Agency was awarded to the university's Center for Environmental Sensing as part of a program to encourage innovative new research. Kuang, a professor in the Department of Electrical and Computer Engineering, will work with Amy Moll, chair of the Department of Materials Science and Engineering, on developing high-sensitivity metal dielectric plasmon surface microsensors.
The microsensor Kuang is developing could be used to detect contaminants in vapors or liquids. Thousands of different sensors could be integrated onto a single microchip to measure multiple chemical substances simultaneously, Kuang said. This would be a significant advance over existing microsensors, which are capable of only detecting a few different chemicals at the same time.
To build the sensor, Kuang will use nanofabrication techniques to etch ridges that are about 1/1,000th the width of a single strand of hair on an underlying layer of silicon. A nanoscale layer of metal is then deposited on the silicon ridges to create a prism. When the device is illuminated from below, the metal ridges diffract the light and focus it. Scientists can then assess wavelengths to identify and measure contaminants such as acetone or cleaning solvents.
More information is at news.boisestate.edu.

ISU Research Studies Global Warming Impact on Treelines

(Pocatello) Idaho State University assistant professor Matt Germino will be trying to determine how global warming is influencing the lower and upper boundaries of forests across a broad swath of the western United States.
Germino received a three-year, $335,000 research grant from the Department of Energy's National Institute for Climate Change Research. His study is titled "Climatic and biotic co-limitation of conifer establishment at treelines: addressing uncertainty in bio-climatic mode forecasts of forest change."
Germino, the lead principal investigator for the grant, is working with Jeremy Littell and Nathan Mantua at the University of Washington and Lisa Graumlich at the University of Arizona. They will study nine mountain sites from the Front Range in Colorado and Wyoming to the rain-shadow mountains of Washington.
The mountain ranges to be studied include the Zirkel Mountains in northeastern Colorado, the Medicine Bow Range in southeastern Wyoming, Wind River Range in central Wyoming, Beartooth Mountains in northwestern Wyoming and southern Montana, the Teton Range in southeastern Idaho and Wyoming, Centennial Mountains in southeastern Idaho and Montana, the Wallowa/Eagle Cap Range in northeastern Oregon, Goat Rock Mountains in south central Washington and the North

Cascade Mountains in north central Washington.
At the upper treeline, some of the major effects of a change in location and composition include altered snowpack distribution, more fuel for fires and an altered resource base for wildlife. At the lower treeline, Germino said, changes in the forest makeup and potential fire fuels could result in large shifts in the kinds of fire fuels and the habitat for animals and plants living at the treeline.

UI Research Teams Takes Clean Water Solution to Kenya

(Moscow) University of Idaho students from the colleges of Agricultural and Life Sciences and Engineering zeroed in on the tiny moringa seed as one component of an innovative solution to clean water availability in Africa.
The teams - with students in the research laboratory in Moscow and in the field in Nairobi, Kenya - are refining a process to create clean, safe drinking water and catchment systems for the nomadic Maasai tribes. The continental impact of the research could yield one solution to Africa's clean water crisis.
For the student teams, the culture of Africa's Maasai, which is resistant to outside influences, makes problem-solving for the tribal population a challenge.
"The idea we had at the University of Idaho is how to use local materials to remove hazards in water so that the water is safe for drinking," said Don Elger, professor of mechanical engineering and one of the project advisers. "The moringa seed is tiny, abundant and works beautifully to filter harmful impurities from collected water."
During the field visit, they tested more than a year's worth of research and design focused on water filtration and storage. The prototypes aimed at reducing muddiness in the water and removing harmful biological materials that can cause illness.
More information is at Clearwater-aid.editme.com and h2oasis.editme.com.

UI Student Receives Prestigious National Fellowship

(Moscow) Michael Falkowski, a University of Idaho graduate student in the College of Natural Resources studying forest resource management, has been awarded the Colwell Memorial Fellowship by the American Society for Photogrammetry and Remote Sensing.
Only one graduate student in the nation is selected to receive this award annually. His accomplishment is a benchmark for the University of Idaho, said Paul Gessler, forest resources professor.
The award encourages and commends graduate students or post-doctoral researchers, who display exceptional interest, desire, ability and aptitude in the field and have a special interest in developing practical uses of these technologies.
Falkowski, who is from Wisconsin, is studying the utility of using remote sensing to quantify aboveground biomass in forested ecosystems. His research, which is being conducted on Moscow Mountain, will provide scientists and forest managers with methods to accurately measure and monitor forest carbon stocks.

Ideas Innovations Idaho License Plates For Sale

(Statewide) Specialty license plates that support Idaho's science and technology industry are for sale through the Idaho Transportation Department.
A portion of the proceeds from each plate sold goes to a fund that is used

to develop programs and market the state's technology sector.
A picture of the license plate, and information on how to purchase one, can be viewed at technology.idaho.gov/license.

Have an Idea/Submission for this Newsletter?

Contact Julie Howard at the Idaho Commerce & Labor's Office of Science & Technology at (208) 334-2650, ext. 2147, or at Julie.howard@cl.idaho.gov

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